EXHIBIT 16

1: Biotechnology (N Y). 1994 Aug;12(8):813-8.

A prototype recombinant vaccine against respiratory syncytial virus and parainfluenza virus type 3.

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We have produced a genetically-engineered chimeric protein composed of the external domains of the respiratory syncytial virus (RSV) fusion (F) protein and the parainfluenza virus type 3 (PIV-3) hemagglutinin-neuraminidase (HN) protein in insect cells using the baculovirus expression system. The yield of the soluble chimeric FRSV-HNPIV-3 protein could be increased approximately 2-fold by using Trichoplasia ni (High Five) insect cells in place of Spodoptera frugiperda (Sf9) for expression. The chimeric protein, purified from the supernatant of baculovirus-infected High Five cells by immunoaffinity chromatography was correctly processed at the F2-F1 proteolytic cleavage site. Immunochemical analysis of the chimera with a panel of anti-F and anti-HN monoclonal antibodies suggested that the antigenicity of the major F and HN neutralization epitopes of the chimeric protein was preserved. Immunization of cotton rats with two 1 or 10 micrograms doses of the chimeric protein adsorbed to aluminum phosphate elicited strong PIV-3 specific HAI responses as well as PIV-3 and RSV specific neutralizing antibodies, and at either dose completely protected against challenge with live RSV and PIV-3.

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